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Application No. 10/633,919
Amendment dated December 26, 2006
Reply to Office Action of June 26, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-5 (cancelled).

6. (original) A method of forming a core within a metal casting, the method comprising the steps of:

 providing a precipitation-hardenable alloy core rod having a length and opposite ends;

 packing sand around at least one end of the core rod to form a sand core with core rod;

 placing the sand core with core rod into a mold;

 pouring molten non-ferrous metal into the mold and around the sand core with core rod; and

 producing a non-ferrous metal casting having a core and a uniform sidewall thickness having a deviation in the thickness in a range of +/- 0.060 inches.

7. (original) The method of claim 6, wherein the providing step includes the step of providing a core rod being made from a precipitation-hardenable alloy comprising about 40.0 to 75.0 wt. % Ni, about 0.0 to 25.0 wt. % Co, about 10.0 to 25.0 wt. % Cr, and about 0.0 to 20.0 wt. % Fe.

8. (original) The method of claim 7, wherein the providing step includes the step of providing a rod core that does not stress relax during and after the pouring step.

9. (original) The method of claim 7, wherein the providing step includes the step of providing a rod core that remains straight during and after the pouring step.

10. (original) The method of claim 7, wherein the providing step includes the step of providing a rod core that does not bend during and after the pouring step.

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11. (original) The method of claim 7, further comprising the step of solidifying the metal in the mold and around the sand core with core rod to form the casting.
12. (original) The method of claim 11, wherein the providing step includes the step of providing a rod core that does not stress relax during the solidifying step.
13. (original) The method of claim 11, wherein the providing step includes the step of providing a rod core that remains straight during the solidifying step.
14. (original) The method of claim 11, wherein the providing step includes the step of providing a rod core that does not bend during the solidifying step.
15. (original) The method of claim 7, wherein the producing step includes the step of machining the casting into a plunger tip for use in one of aluminum and magnesium die casting operations.
16. (original) The method of claim 15, wherein the pouring step includes the step of pouring a beryllium-copper alloy.
17. (withdrawn) A beryllium-copper alloy plunger tip for use in aluminum and magnesium die casting operations formed by the method of claim 6.
18. (withdrawn) The plunger tip of claim 17, wherein the plunger tip comprises a cylindrical body closed at one end and having an axially extending cavity therein, said body having a generally uniform wall thickness determined by the distances of an interior surface and exterior surface of the body from the axis of the plunger tip at a predetermined point along the length of said plunger tip.
19. (withdrawn) The plunger tip of claim 18, wherein the body is internally threaded to enable the plunger tip to be connected to a rod.
20. (withdrawn) The plunger tip of claim 18, further comprising an adapter having a first end and an opposite second end, wherein the body is internally threaded to cooperatively engage said first end of said adaptor, said second end of said adapter being adapted to cooperatively engage a rod.
21. (previously presented) The method of claim 16, wherein the machining step includes the step of machining the casting into a plunger tip having a cylindrical

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body closed at one end and having an axially extending cavity therein, the body having a generally uniform wall thickness determined by the distances of an interior surface and exterior surface of the body from the axis of the plunger tip at a predetermined point along the length of the plunger tip.

22. (previously presented) The method of claim 21, further comprising the step of internally threading the body of the plunger tip to enable the plunger tip to be connected to a rod.
23. (new) The method of claim 6, wherein the providing step includes the step of providing a core rod being made from a non-ferrous precipitation-hardenable alloy.
24. (new) The method of claim 6, wherein the providing step includes the step of providing a core rod being made from a Ni based precipitation-hardenable alloy.
25. (new) The method of claim 6, wherein the pouring step includes the step of pouring a copper based alloy.
26. (new) The method of claim 6, wherein the producing step includes the step of producing a copper based casting.